ASOS MODIFICATION NOTE 41 (for Electronics Technicians)
Engineering Division
W/OSO321:BGM

SUBJECT	:	Line filter for wind direction assembly.
PURPOSE	:	Signal noise suppression for the wind direction sensor.
EQUIPMENT AFFECTED	:	ASOS
PARTS REQUIRED	:	Belfort, P/N 33212, Filter, S100-FMK-60, qty. 1
MOD PROCUREMENT	:	Technicians will order from NLSC one line filter each ASOS wind direction system.
SPECIAL TOOLS REQUIRED	:	None
TIME REQUIRED	:	1 hour
EFFECT ON OTHER INSTRUCTIONS	:	None
AUTHORIZATION	:	This modification is authorized by Engineering Change Proposal E94SM05F190. This modification was successfully tested at Sterling, Virginia, and Silver Spring, Maryland.

GENERAL

A wind direction sensor filter has been added to prevent cross talk on the signal lines. The filter is easily connected in line with the wind direction transmitter signal lines.

PROCEDURE

Before and After Installation Procedures

Read and follow the procedures related to installation of the wind direction sensor filter.

BEFORE INSTALLING FILTER

1. Call the AOMC at 1-800-242-8194 and provide notification on which ASOS you will be installing the sensor filter.

2. Get approval of the responsible MIC/OIC before starting installation. You may install on any day of the month if restrictions in steps 3 and 4 are satisfied.

3. **Commissioned Sites Only**: Do not start installation during bad weather, precipitation, instrument flight rule (IFR) conditions, or if any of these conditions are expected within 3 hours. The responsible MIC/OIC will define these meteorological conditions.

4. Do not start the installation at a time that will conflict with scheduled synoptic observations at 00, 03, 06, 09, 12, 15, 18, and 21Z. Although about 15 minutes should be sufficient, allow one hour to complete installation and restart ASOS.

5. Immediately before beginning work at NWS staffed sites, the MIC/OIC/Observer will inform the tower and any other critical users that ASOS, wind system will be shut off for wind direction filter installation. At an unstaffed site, the el tech will inform the tower using Controller Video Displays (CVD) and Operator Interface Devices (OID).

6. Do not begin the installation process, until immediately after an hourly observation has been transmitted. At NWS-staffed sites, normal backup observing procedures will be implemented.

7. Turn off report processing for the wind

8. Make the appropriate SYSLOG entries (MAINT-ACT-FMK) Mod 41
   a. Log on as **TECH**.
   b. Key the **MAINT** screen.
   c. Key the **ACT** page.
   d. Key **START** Stop here and preform Mod 41.
      Upon completion of the Mod 4, log onto the system.

WIND DIRECTION FILTER INSTALLATION

9. Inside the DCP equipment cabinet, ensure that the circuit breaker on wind sensor power control module is set to **OFF** (right) position.

10. Using a large flat-tipped screwdriver, open wind sensor electronics enclosure (A1) access door.

11. Locate and disconnect P1 from J1 inside the wind sensor electronics box (A1).

12. Connect the printed wiring line filter board provided with S100-FMK-60 (Belfort P/N 33212) between P1 and J1 (reference attachment A).

13. Close and secure the electronic (A1) access door. At the DCP set the wind sensor by power control module to the **ON** (left) position.

AFTER INSTALLING FILTER

14. When ASOS is restarted at unstaffed sites, call to inform towers that the work is complete. (At staffed sites, the MIC/OIC/Observer will call the tower).

15. If on-site NWS staff provides backup while the installation is underway, no special observation is needed when wind system is restarted.

16. Inform the office staff the wind system is again operational. If less than 10 minutes remain until the next hourly observation, augmentation of the wind may be required. The chart below indicates how long it takes the wind sensor to report after a start up.

Times Needed for Elements to be Reported Automatically

	Minimum	Maximum
Wind direction	1 minute	2 minutes
Wind speed	1 minute	2 minutes

17. Verify that wind data appears on the one minute page. Call the AOMC at 1-800-242-8194 and tell the operator:
    a. Your location.
    b. That installation of the wind filter has been completed.
    c. That the wind system is operational.

18. Enter in the SYSLOG that maintenance has been completed.
    a. Key the **MAINT** screen.
    b. Key the **ACT** page.
    c. Key **FMK** - Enter the Field Mod Kit (FMK) number as follows: **Mod 41**.
       On the second line of the screen verify that only **Mod** 41 is displayed. Complete by entering **Y** in the Y/N if only **Mod** 41 is displayed.
    d. Check the **SYSLOG** and verify the **FMK** message. Enter a comment in the SYSLOG stating that wind direction filter has been installed.

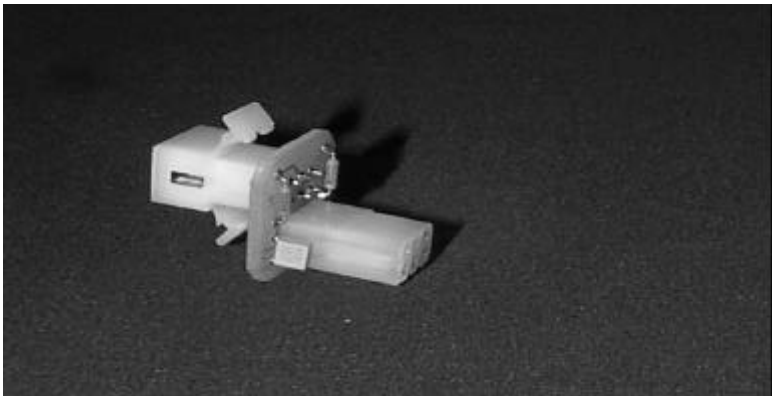
Reporting Modification

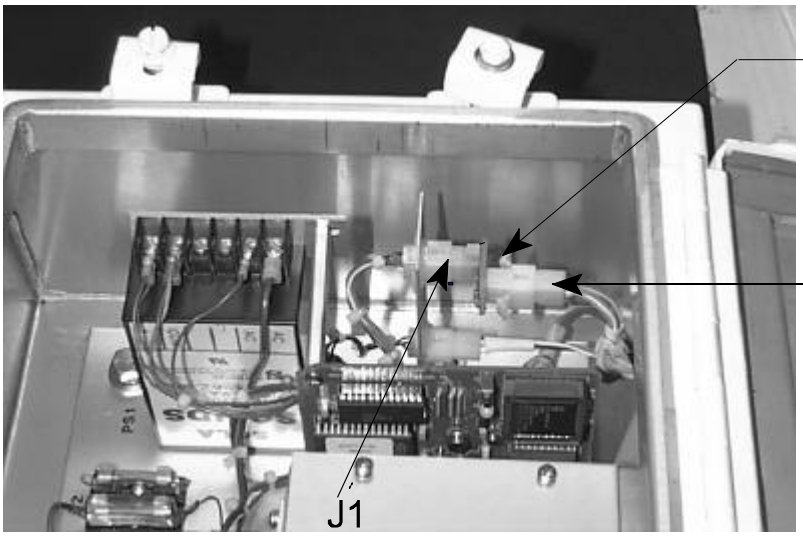
This modification should be completed on next visit to the site. Report completed modification on a Weather Service Form A-26 maintenance record, per instructions in EHB-4, Part 2, Appendix F, using reporting code AWIND. (See Attachment B for a completed sample of WS Form A-26).

Original Signed

John McNulty
Chief, Engineering Division

Attachment A
Attachment B




FILTER
P/N 33212
P1
J1